

REMARKS

Claims 1 to 29 are pending in the application; claim 5 is canceled; claim 7-12 and 18-25 are withdrawn.

Drawings

The drawings Figs. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 are objected to under 37 CFR 1.83(a) as not showing every feature of the invention as claimed. The examiner refers to the vanes that must be shown or the feature canceled from the claims.

It is respectfully submitted that the FEATURE, i.e. the vane, is shown; what is missing is the identifier - reference numeral 8 - used in the specification.

Fig. 1 has been amended to include reference numeral 8 and a lead line so as to identify the vane properly. There is no need to include the reference numeral 8 in ALL the figures that are objected to as one drawing figure is sufficient to identify the claimed subject matter of the rotor vane (the rotor vanes are identical in all illustrations).

Reconsideration and withdrawal of the objection of the drawings are therefore respectfully requested.

Rejection under 35 U.S.C. 102

Claims 1, 5-6, 13-17, 26-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Szodtfridt et al.* (US 5,138,985).

The amended claim 1 is directed to a camshaft adjuster with an oscillating motor comprising a rotor that is fixedly connected to a camshaft and further comprising a stator surrounding the rotor, wherein the rotor is rotatable relative to the stator. At least one connecting part that is acting by at least one of positive engagement and force transmission is provided on a camshaft having cams. The rotor has a base member and vanes that are connected to the base member and project radially outwardly from the base member. The base member has a central opening and is fixedly mounted with the central opening on the at least one connecting part. The central opening has an inner diameter that is greater than a diameter of a circle circumscribing the cams of the camshaft.

Szodtfridt et al. discloses a phase converter that is piston-actuated. The sprocket wheel 31 for driving the camshaft 1 is welded to the interior hub 32. The interior hub 32 and the coupling member (piston) 34 engage one another with helical toothing 33. The piston 34 can be moved between two axial end positions E1, E2 (schematically shown in Figs.

3 and 4). The piston 34 and the hollow shaft 36 connected by flange 37 to the camshaft 1 are engaged by helical toothing 35 . This arrangement is described in col. 4, lines 7-24. The operation is explained in col. 5, line 39, to col. 6, line 4. Movement of the piston 34 from position E1 to position E2 causes by way of the two helical toothings 33, 35 the sprocket wheel 30 to turn relative to the camshaft 1. See also Abstract.

The phase converter therefore has no rotor with radially outwardly extending vanes. The piston 34 has a solid wall in order to separate the first and second pressure chambers 40, 41 from one another; it cannot have any vanes.

Moreover, the rotor (piston 34) is not fixedly connected to the camshaft 1; the rotor or piston 34 engages by means of toothing 35 the inwardly projecting part of the hollow shaft 36 that is a fixed or unitary part of the camshaft 1 (see Figs. 1 and 2: 36, 37 and 1 are fixedly connected to one another) and engages by means of toothing 33 the hub 32 that is fixed to the sprocket wheel 31. The rotor (piston 34) rotates relative to the camshaft and is not fixed thereto.

Also, there is no connecting part of the camshaft on which the rotor with its central opening is fixedly mounted. The central opening of the rotor (piston) 34 is mounted by means of its toothing 33 rotatably on the inner hub 32.

Aside from what the drawings disclose or illustrate, there is no disclosure or discussion in *Szodtfridt et al.* that would provide any suggestion or indication as to how an inner diameter of the base member and the diameter of the circle circumscribing the cams are to be selected.

Claim 1 as amended is not anticipated by or obvious in view *Szodtfridt et al.* and should thus be allowable together with its dependent claims.

Claims 1-6, 13-17, 26-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Ogawa et al.* (US 6,035,816).

Ogawa et al. according to the examiner shows a rotor 20 fixedly mounted on the camshaft 1. Stator 30, 40, 50 surrounds the rotor. Connecting part (mounting bolt) 81 is provided on the camshaft 1 and the rotor 20 is said to have a base member mounted on the connecting part 81. According to the examiner, the base member has a diameter that is different from the diameter of the circle circumscribing the cams of the camshaft, and in particular has an inner diameter that is greater than the diameter of the circle

circumscribing the cams of the camshaft.

Amended claim 1 claims a camshaft adjuster with an oscillating motor comprising a rotor that is fixedly connected to a camshaft and further comprising a stator surrounding the rotor, wherein the rotor is rotatable relative to the stator. At least one connecting part that is acting by at least one of positive engagement and force transmission is provided on a camshaft having cams. The rotor has a base member and vanes that are connected to the base member and project radially outwardly from the base member. The base member has a central opening and is fixedly mounted with the central opening on the at least one connecting part. The central opening has an inner diameter that is greater than a diameter of a circle circumscribing the cams of the camshaft. As set forth in the paragraph 0008 of the instant specification, this is beneficial because the oscillating motor can be pushed axially across the cams onto the positive-engagement and/or force transmission part and the camshaft requires therefore only two bearing locations.

When looking at Figs. 1 and 2 of *Ogawa et al.*, it is clear that the base member of rotor 20 has an inner diameter that is the same as the inner diameter of the camshaft 10. Examiner stated that the base member has an inner diameter that is greater than the diameter of the circle circumscribing the cams of the camshaft; aside from making this statement in regard to this feature, examiner has not provided any reference to a specific disclosure in *Ogawa et al.*

Applicant respectfully submits that the camshaft 10 and the base member of the rotor 20 are shown to have the same inner diameter. It is impossible for the base member to have a central opening with an inner diameter that is greater than the diameter of the circle circumscribing the cams of the camshaft when the base member and the camshaft have the same inner diameter because the camshaft, of course, has a certain wall thickness and cams projecting from it. Aside from the drawings, there is no disclosure or discussion in *Ogawa et al.* that would provide any suggestion or indication as to how the inner diameter of the base member and the circle circumscribing the cams are to be selected.

Moreover, there is no disclosure in regard to the subject matter of claims 2 and 3: the at least one connecting part is defined in these claims as a positive-engagement part having a non-round cross-section, particularly a polygonal cross-section. The connecting

part of *Ogawa et al.* is a bolt (single mounting bolt - see col. 3, line 42); a bolt has a round cross-section - otherwise it cannot be screwed in. Moreover a bolt is a force-locking attachment means and not a positive engagement means.

The subject matter of claim 4 - a number of corners of the polygonal cross-section of the connecting part matches a number of the vanes of the base member - is nowhere disclosed or suggested by *Ogawa et al.* as *Ogawa et al.* only discloses a mounting bolt which cannot have a polygonal cross section with corners.

Claim 1 as amended is therefore not anticipated by or obvious in view of *Ogawa et al.* and should thus be allowable together with its dependent claims.

Reconsideration and withdrawal of the rejection of the claims pursuant to 35 USC 102 are therefore respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or **e-mail** from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on March 9, 2007,

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GEH/Encl.: replacement drawing sheet Figs. 1 and 2 (1 sheet)